REMARKS

Applicant respectfully requests reconsideration of this application, as amended, and reconsideration of the Office Action dated April 7, 2008. Upon entry of this Amendment, Claims 1-12 and 14-41 will be pending in this application. Claim 13 has been canceled.

Support for the amendments to Claims 1, 28, and 39 is found in the specification at page 4, last paragraph, page 5, last paragraph, and page 6. Support for the amendments to Claims 2-5 and 31-34 is found in the specification at page 13.

The Examiner has rejected Claims 1-38 under 35 U.S.C. §112, second paragraph, as being indefinite. Particularly, the Examiner asserts that with respect to independent Claims 1 and 28, "it is unclear whether the Applicant's intent is to claim the intermediate or final cured product given that in the final product, the polyurethane adhesive would not be a reactive or a hot melt." As amended, Claim 1 defines a stopper with a barrier layer that is formed by the application of a reactive hot melt polyurethane adhesive to the stopper. Consequently, Claim 1 is a product by process claim which makes clear that the barrier layer results from the application of the hot melt polyurethane to the substrate of the stopper. Likewise, as amended, Claim 28 is a product by process claim that defines a stopper having a substrate and a composite barrier layer formed by combining at least one reactive hot melt polyurethane adhesive with material having a lower oxygen permeability than the polyurethane adhesive. Therefore, Claim 28 clearly defines the composite barrier layer of the stopper by the process used to make the composite barrier layer. Consequently, applicant submits that Claims 1 and 28, as amended, particular point out and distinctly claim the subject matter of the applicant's invention.

With respect to Claims 2-5 and 31-34, the Examiner has rejected those claims under 35 U.S.C. §112, second paragraph, as being indefinite because they failed to recite what type of permeability is being claimed. As amended, Claims 2-5 and 31-34 specify that the permeability refers to the permeability of the barrier layer to oxygen.

With respect to Claim 13, the Examiner's rejection under 35 U.S.C. §112, second paragraph, as being indefinite, has been obviated by the cancellation of Claim 13.

With respect to Claim 39, the applicant has amended Claim 39 to provide antecedent basis for the term "the stopper".

The Examiner has rejected Claims 1-5, 9, 10, 12-17, 19, 24-27, and 39 under 35 U.S.C. §102(b) as being anticipated by Mackie et al. PCT Publication WO 00/64647 (the "647 reference"). As amended, independent Claim 1 defines a stopper comprising a substrate and a barrier layer which is formed by application of a reactive hot melt polyurethane adhesive to the stopper. The 647 reference discloses a method for applying an effective amount of a barrier polymer (polymeric material) to the surface of a natural or synthetic cork in order to prevent diffusion of the substrate material into the beverage (cork taint). While the 647 reference identifies polyurethane as a suitable material for the barrier layer, the 647 reference does not identify reactive hot melt polyurethane for use in coating a cork. Specifically, the 647 reference teaches the use of a solvent-based polyurethane material for coating a cork. Such a teaching teaches away from the use of a reactive hot melt polyurethane adhesive for creating the barrier layer on the cork, and the general reference to reactive adhesion to the cork and melt polymer application (e.g. thermoforming, vacuum forming and plasma polymerization) found on page 6 of the 647 reference does not fairly suggest that a reactive hot melt polyurethane as opposed to the disclosed solvent-based polyurethane can provide the advantages of adhesion and elasticity of the stopper made in accordance with the present invention. As pointed out in the specification of the present invention, the use of a reactive hot melt polyurethane adhesive to form the barrier layer produces the advantages of good adhesion and elasticity, which properties will not result from the use of solvent-based or two-part polyurethanes. As a result, the stopper with the barrier layer of Claim 1 is different in its performance characteristics from that of a stopper formed using a solvent-based or a two-part polyurethane coating. Consequently, the subject matter of independent Claim 1 is not anticipated by the 647 reference.

Dependent Claims 2-12 and 14-27 depend directly or indirectly from Claim 1 and are therefore not anticipated by the 647 reference.

With respect to the rejection of independent Claim 39, applicant asserts that Claim 39 is not anticipated by the 647 reference. Claim 39, as amended, defines a method for applying a barrier layer to a stopper. Particularly, the method of Claim 39 includes forming a pre-polymer by combining an isocyanate solution with a polyol solution and applying the pre-polymer to the surface of the stopper as a hot melt. As pointed out above, the 647 reference teaches the use of a solvent-based polyurethane coating and therefore does not anticipate the hot melt method of Claim 39.

The Examiner has rejected Claims 1-10, 12-22, 24-29, 31-37 and 39-40 under 35 U.S.C. §102(b) as being anticipated by Hanaya et al. United States Patent No. 4,745,014 (the "Hanaya reference"). As amended, independent Claim 1 defines a stopper comprising a substrate and a barrier layer, which is formed by application of a reactive hot melt polyurethane adhesive to the stopper. The Hanaya reference discloses a packaging material comprising a metal foil and at least one heat shrinkable film of synthetic resin disposed on at least one surface of the metal foil. The disclosed packaging material is used to wrap products and in one case is used as the metal foil wrap over the cork and around the neck of a wine bottle. Particularly, the Hanaya reference discloses that "the packaging material [is] suitable for sealing that capped mouths of bottles for wine, champagne or the like." Abstract, emphasis supplied. The packaging material disclosed by the Hanaya reference is a wrapper for the neck of a wine bottle. The packaging material is not a stopper. The Examiner's contention that a wrapper for the neck of a wine bottle is a stopper finds no support either in the specification for the claimed invention or in common usage. In the specification for the present invention, Fig. 1 clearly illustrates a stopper that is inserted into the opening of a bottle. Further, the specification for the present invention defines a "stopper" and "stoppers" as "encompassing any stopper which may be inserted into a receptacle to close an opening in the receptacle." Page 1. In addition, The American Heritage® Dictionary of the English Language, Fourth Edition, 2000 defines "stopper" as "1. A device, such as a cork or plug, that is inserted to close an opening." Therefore, the foil-like packaging material of the Hanaya reference for wrapping the outside of the neck of a wine bottle is not inserted into the opening of a wine bottle and does not constitute a stopper within the meaning of Claim 1. Consequently, the Hanaya reference does not anticipate Claim 1.

Dependent Claims 2-12 and 14-27 depend directly or indirectly from Claim 1 and are therefore not anticipated by the Hanaya reference.

With respect to the rejection of independent Claim 28, applicant asserts that Claim 28 is not anticipated by the Hanaya reference. Claim 28, as amended, defines a stopper comprising a substrate and a composite barrier layer formed by combining a reactive hot melt polyurethane adhesive and a material with lower oxygen permeability than the cured reactive hot melt polyurethane adhesive. The composite barrier layer is applied to the substrate of the stopper in order to create the claimed stopper. As discussed above, the Hanaya reference does not disclose a stopper, and therefore the Hanaya reference does not anticipate Claim 28.

Dependent Claims 29-38 depend from Claim 28 and are therefore not anticipated by the Hanaya reference.

With respect to the rejection of independent Claim 39, applicant asserts that Claim 39 is not anticipated by the Hanaya reference. Claim 39, as amended, defines a method for applying a barrier layer to a stopper. Particularly, the method of Claim 39 includes forming a pre-polymer by combining an isocyanate solution with a polyol solution and applying the pre-polymer to the surface of the stopper as a hot melt. Because the Hanaya reference does not disclose coating a stopper, the Hanaya reference does not anticipate the method of Claim 39.

With respect to the rejection of independent Claim 40, applicant asserts that Claim 40 is not anticipated by the Hanaya reference. Claim 40, as amended, defines a method for applying a barrier layer to a stopper by applying the reactive hot melt adhesive either to the stopper or to a partially formed barrier layer, allowing the hot melt adhesive to cool, and then contacting the stopper and the barrier layer so that bonding occurs. Because the Hanaya reference does not disclose coating a stopper with a barrier layer, the Hanaya reference does not anticipate the method of Claim 40.

Dependent Claim 41 depends from Claim 40 and is therefore not anticipated by the Hanaya reference.

The Examiner has rejected Claims 6-8, 11, 18, 20-23, 28-38, and 40-41 under 35 U.S.C. §103(a) as being unpatentable over the 647 reference. Because Claims 6-8, 11, 18, and 20-23 depend from Claim 1, those dependent claims are allowable because Claim 1 is allowable for the reasons previously stated concerning anticipation by either the 647 reference or the Hanaya reference and for the reasons concerning §112.

With respect to independent Claim 28, the 647 reference fails to render obvious the subject matter of Claim 28 for two reasons. First, the 647 reference teaches away from using a reactive hot melt polyurethane adhesive as a barrier layer as part of the construction of a stopper. Particularly, the 647 reference teaches the use of a solvent-based polyurethane for creating a single barrier layer of polyurethane on the stopper substrate. The general suggestion that "the method of applying the polymer to the substrate will be dependent on the nature of the polymer and the substrate" (page 6), does not provide the necessary suggestion to adopt a reactive hot melt polyurethane adhesive instead of the disclosed solvent-based polyurethane for the barrier layer. Second, the 647 reference fails to teach or suggest a composite barrier layer formed by the reactive hot melt polyurethane adhesive and a separate material having an oxygen permeability lower than that of the cured reactive hot melt polyurethane adhesive. The 647 reference does not address the formation of a composite barrier layer at all. Consequently, the subject matter of Claim 28 is not rendered obvious by the disclosure of the 647 reference.

Dependent Claims 29-38 depend from Claim 28 and are therefore the subject matter of those claims are not rendered obvious by the 647 reference.

With respect to the §103(a) rejection of independent Claim 40, applicant asserts that the subject matter of Claim 40 is not rendered obvious by the 647 reference. Claim 40, as amended, defines a method for applying a barrier layer to a stopper by applying the reactive hot melt adhesive either to the stopper or to a partially formed barrier layer, allowing the hot melt adhesive to cool, and then contacting the stopper and the barrier layer so that bonding occurs. The 647 reference simply does not disclose a method for coating a stopper with a barrier layer where a reactive hot melt adhesive is applied either to the stopper or to a partially formed barrier layer in order to adhere the partially formed a barrier layer to the

stopper. Consequently, the subject matter of Claim 40 is not rendered obvious by the disclosures of the 647 reference.

Dependent Claim 41 depends from Claim 40 and is therefore the subject matter of Claim 41 is not rendered obvious by the 647 reference.

The Examiner has rejected Claims 11, 17, 23, 30, and 38 under 35 U.S.C. §103(a) as being unpatentable over the Hanaya reference. Because Claims 11, 17, and 23 depend from Claim 1, those dependent claims are allowable because Claim 1 is allowable for the reasons previously stated concerning anticipation by either the 647 reference or the Hanaya reference and concerning §112. Moreover, because Claims 30 and 38 depend from Claim 28, those dependent claims are allowable because Claim 28 is allowable for the reasons previously stated concerning anticipation by the Hanaya reference, for the reasons concerning obviousness based on the 647 reference, and for the reasons concerning §112.

Applicant respectfully submits that this Amendment obviates the outstanding rejections in this case and places the application in condition for immediate allowance. Allowance of this application is earnestly solicited.

If any additional fees are due in connection with the filing of this Amendment or the accompanying papers, such as fees under 37 C.F.R. §§1.16 or 1.17, please charge the fees to SGR Deposit Account No. 02-4300, Order No. 045637.005. If an additional extension of time under 37 C.F.R. §1.136 is necessary that is not accounted for in the papers filed herewith, such an extension is requested. The additional extension fee also should be charged to SGR Deposit Account No. 02-4300, Order No. 045637.005. Any overpayment can be credited to Deposit Account No. 02-4300, Order No. 045637.005.

Respectfully submitted,

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Dated: October 7, 2008

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